AMSAT News Service Weekly Bulletins
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AMSAT NEWS SERVICE
ANS-143

ANS is a free, weekly, news and information service of AMSAT North America,
The
Radio Amateur Satellite Corporation. ANS reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in
designing, building, launching and communicating through analog and digital
Amateur Radio satellites.

Please send any amateur satellite news or reports to:

ans-editor@amsat.org

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SB SAT @ AMSAT $ANS-143.01
Please Do Not Use AO-51 While the Satellite is in Eclipse

AMSAT News Service Bulletin 143.01
  From AMSAT HQ SILVER SPRING, MD.
May 23, 2010
To All RADIO AMATEURS
BID: $ANS-143.01

After a brief outage on May 16 the AO-51 Command Team has turned the repeater back on on AO-51, including the 67 Hz PL mode. The Command Team has a favor to ask of our Southern Hemisphere users, including those in South America, Southern Africa, Australia, and New Zealand:

Please avoid using AO-51 while the satellite is eclipsed.

Most tracking programs indicate illuminated or eclipsed states, and it can always be found by whether the footprint of the satellite is crossing or in contact with the footprint of the sun. Generally this is occurring when the satellite is South of 30 degrees South latitude at present. AO-51 eclipses are predicted to reach almost 20 minutes by July 2010.

AMSAT-NA VP of Operations, Drew Glasbrenner, KO4MA said, "I realize this is a large favor to ask, but the alternative right now is moving to a scheduled type operation, which I would like to avoid. Please pass this to your friends, other users you know, and your national satellite email lists and forums."

For this summer eclipse season, the eclipsed periods are while AO-51 is over mostly unoccupied Antarctica and surrounding areas. This means when the batteries alone are supporting the transmitter there are not likely to be any users. The power management software combined with the PL, should mean the satellite's batteries can be protected from over-discharge,
while still providing the strongest possible downlink signal and highest possible availability.

Observations from the southern hemisphere while entering and leaving eclipse are very helpful. Post your reports on the AMSAT-BB or e-mail your report to the AO-51 Control Team via ao51-modes@amsat.org. AO-51 operators also monitor the Live OSCAR Satellite Status page (http://oscar.dcarr.org/). Analysis of AO-51's Whole Orbit Data (WOD) files shows the distribution of the satellite's users.
See: http://tinyurl.com/2ehbxv5

If the eclipse periods get too long too fast the repeater may shut off due to a low battery voltage watchdog. If this happens, please email Drew directly via ko4ma@amsat.org.

Read the latest AO-51 Control Team News at:
http://www.amsat.org/amsat-new/echo/CTNews.php

[ANS thanks Drew, KO4MA, for the above information]

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SB SAT @ AMSAT $ANS-143.02
Maryland-DC PICetSat Balloon Launch on May 29

AMSAT News Service Bulletin 143.02
  From AMSAT HQ SILVER SPRING, MD.
May 23, 2010
To All RADIO AMATEURS
BID: $ANS-143.02

If you're in the Washington DC - Maryland area you're invited to join Pat Kilroy, N8PK for a PICetSat Lite balloon launch on Saturday, May 29 at about 10:00 AM EDT.

Pat says the launch site can be any place in Carroll County, Maryland. Coordination will be on the 145.410 MHz K3PZN/R machine in Westminster, MD. (backup 147.285 MHz machine in Sykesville, MD). We will launch anything you wish with a microcontroller attached, so your ideas are welcome. RSVP by May 27 to pat@patkilroy.com.

Pat has posted some background info: http://simsat.net.

[ANS thanks Pak, N8PK for the above information]

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SB SAT @ AMSAT $ANS-143.03
AMSAT Videos From Dayton Hamvention

AMSAT News Service Bulletin 143.03
  From AMSAT HQ SILVER SPRING, MD.
May 23, 2010
To All RADIO AMATEURS
BID: $ANS-143.03

David Jordan, AA4KN, ARISS Public Relations requested David Larsen,
KK4WW, to produce informative videos while attending the 2010 Dayton
Hamvention.

One video features AMSAT Treasurer, Keith Baker KB1SF describing
AMSAT's efforts in Cubesat development. The Cubesat video can be
viewed on-line at http://www.youtube.com/watch?v=DpyEhw-vI

The second video is David's interview with AMSAT VP of User Services,
Gould Smith WA4SXM where he discusses in detail the upcoming ARISS
satellite, ARISSat-1. This can be viewed on-line at:
http://www.youtube.com/watch?v=DfSCw6VcU

David would like to thank David Larsen with the LCF Group and a director
of the Foundation for Amateur International Radio Service
(www.fairs.org),
for his time in producing these videos.

[ANS thanks David Jordan, AA4KN for the above information]

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SB SAT @ AMSAT $ANS-143.04
Downlink Signal Successfully Received From Venus-bound UNITEC-1

AMSAT News Service Bulletin 143.04
  From AMSAT HQ SILVER SPRING, MD.
May 23, 2010
To All RADIO AMATEURS
BID: $ANS-143.04

JAXA successfully launched the seventeenth H-IIA mission on May 21
(JST) carrying the Planet-C Venus Climate Orbiter a Venus probe, the
experimental "Ikaros" space sail, a Venus-bound University satellite
called UNITEC-1 and 3 small satellites also developed by Japanese
universities and other institutions delivered to low earth orbit:

Negai*", Soka University
437.305MHz CW, Packet 1200bps FSK AX.25
http://kuro.t.soka.ac.jp/main.html

WASEDA-SAT2, Waseda University
437.485MHz CW(FM), PCM-FSK(FM) 9600bps
http://www.miyashita.mmech.waseda.ac.jp/Waseda-Sat2/index.htm

KSAT, Kagoshima University
Uplink: S-band(2GHz, 10kbps), Downlink: Ku-band(13.275GHz, 10kbps/1Mbps)
http://www.sci.kagoshima-u.ac.jp/~nishio/download/Ukaren2008Nishio.pdf

UNITEC-1 be inserted into a Venus encounter trajectory and will become
the world first university satellite which goes beyond Lunar orbit. The
main mission of UNITEC-1 is to perform technological experiments of
on-board computers and test long-range, inter-planetary communication
using amateur radio frequencies:

Downlink Frequency: 5840.000MHz, band width 20MHz
Transmission Power: 4.8W/antenna, 9.6W total
Antenna: 2 Microstrip patch antennas
Modulation: AFSK/FM 1200bps during LEO flight
                     CW 1bps during Interplanetary flight
Callsign: JQ1ZUN

News posted on the UNITEC-1 Operations Center web page reports that

its CW and FSK signal have been received from a distance of approximately 300,000 km by Japanese ground stations on its first pass over Japan kept from 16:15 (JST) to 25:15 (JST) at 21st May. Their signal report indicated the measured downlink frequency of 5839.91 MHz which is down slightly from the design frequency of 5840.00 MHz. The UNITEC team will continue to work on refining receiving and recording techniques as well as tracking and orbital determination.

You can find the latest UNITEC-1 mission news on the team's operation center website: http://sites.google.com/site/unitec1ops/ This also includes a link to their software page where a telemetry data decoder program is available.

Several universities with access to big dishes have expressed interest in creating a network of ground stations to track UNITEC-1 on its flight to Venus and continuing once the satellite is in orbit around the planet. This is still under development at press time and progress will be reported in future ANS bulletins. A radio link budget is under study to help amateur radio stations develop their capability to receive this interplanetary signal.

Pat Barthelow, AA6EG has developed a Facebook Event Page which he calls "UNiTEC-1 VENUS PROBE COMMUNICATIONS" at:
http://www.facebook.com/event.php?eid4468414245469&index&#65533;
[ANS thanks the UNITEC-1 Operations Team and SpaceDaily.com
  For the above information]

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SB SAT @ AMSAT $ANS-143.05
Report on ARISS Contact at the National Air and Space Museum

AMSAT News Service Bulletin 143.05
  From AMSAT HQ SILVER SPRING, MD.
May 23, 2010
To All RADIO AMATEURS
BID: $ANS-143.05

ARRL Maryland-DC Section Manager, Jim Cross, WI3N published news of the successful ARISS contact in the "The MDC Section News".

Thanks to Bob Curran, KE3GG for submitting this report ...

On Saturday, May 8, the Smithsonian National Air and Space Museum held a public ARISS contact. The contact was part of their participation in the annual Lockheed Martin Space Day event.

Fifteen Boy Scouts from Troop 417 of Waldorf, MD were given the opportunity to speak directly to astronaut Tracy Caldwell Dyson, KF5DBF, aboard the International Space Station (ISS) via amateur radio. The contact was facilitated via ground station VK4KHZ in Australia.

Each scout was able to ask at least one question during the nearly 10 minute contact window. During the whole program audience members were able to watch a real time satellite track of the ISS on a large video monitor beside the stage.

The program was introduced by astronaut Dan Tani, KD5DXE, himself having recently returned from four months aboard the ISS. On hand to locally MC the event was Dave Taylor, W8AAS. At the controls of the sound system and the telebridge interface was Bob Curran, KE3GG. The coordinator of the Boy Scout participation in the program was

Bob Davidson, KB3KOW.

Located a short distance left of the stage where the ARISS contact was taking place, AMSAT had a large display table showcasing amateur radio and amateur radio satellites. In addition to fielding questions about amateur radio and explaining the various satellite samples on their table, they also had an example of the amateur radio antennas installed on the ISS and were running a video explaining the ARISS program on a large video monitor.

[ANS thanks Jim Cross, WI3N; Dave Taylor, W8AAS; and Bob Curran, KE3GG for the above information]

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SB SAT @ AMSAT $ANS-143.06
AMSAT-DL Symposium and AGM

AMSAT News Service Bulletin 143.06
From AMSAT HQ SILVER SPRING, MD.
May 23, 2010
To All RADIO AMATEURS
BID: $ANS-143.06

The SouthGate ARC web site carried a summary of the The 2010 Symposium and AGM of AMSAT-DL that took place on April 24 in the Amateur Radio facility at Bochum with its spectacular 20 metre dish.

The Symposium was told that a successor to the COMPASS-1 CubeSat will be built. COMPASS-2 will be a triple CubeSat, 100x100x340 mm, weighing 4 kg.

Mario Lorenz, DL5MLO gave a presentation on the telemetry and command operations of the new IHU-3 computer for P3-E. This included a live demonstration of the operation of the IHU-3 and the IPS operating system and showed the robustness of the turbo codes.

Peter G[illegible]lzow DB2OS reported that the 20m dish at Bochum has been opera-
ting successfully in automatic mode for over a year allowing continuous reception of the NASA solar probes Stereo-A and-B. Bochum supplies the received data to the NOAA in the United States.

Achim Vollhardt DH2VA reported in detail to the symposium on the joint feasibility study by AMSAT-DL and DLR (German Aerospace Center) on Lunar and Mars missions.

AMSAT-DL 2010 Symposium and AGM Report
http://tinyurl.com/33rcasl

AMSAT-DL in Google English
http://tinyurl.com/Amsat-DL

[ANS thanks the SouthGate ARC News for the above information]

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SB SAT @ AMSAT $ANS-143.07
NASA Listens One More Time for Phoenix

AMSAT News Service Bulletin 143.07
From AMSAT HQ SILVER SPRING, MD.

May 23, 2010
To All RADIO AMATEURS
BID: $ANS-143.07

by Staff Writers (Mars Daily http://tinyurl.com/23hwyuj)
Pasadena, Calif. (UPI) May 17, 2010

NASA officials say they are conducting the fourth and final series of checks this week to determine whether the Phoenix Mars Lander has resumed operations.

NASA says its Mars Odyssey orbiter will listen for a signal from Phoenix during 61 flights over the lander's site on northern Mars. The orbiter detected no transmission from the lander during earlier campaigns totaling 150 overflights in January, February and April.

In 2008, Phoenix completed its three-month mission studying martian ice, soil and atmosphere. It continued work for an additional two months before reduced sunlight caused energy to become insufficient to keep it functioning. The solar-powered robot was not designed to survive the dark and cold conditions of a martian arctic winter, NASA said, but in case it did, scientists are using Odyssey to listen for the signals Phoenix would transmit if abundant spring sunshine revived the lander.

"To be thorough, we decided to conduct this final session around the time of the summer solstice, during the best thermal and power conditions for Phoenix," said Chad Edwards, chief telecommunications engineer for the Mars Exploration Program at NASA's Jet Propulsion Laboratory in Pasadena, Calif.

[ANS thanks Mars Daily for the above information]

SB SAT @ AMSAT $ANS-143.08
ARISS Status - 17 May 2010

AMSAT News Service Bulletin 143.08
  From AMSAT HQ SILVER SPRING, MD.
May 23, 2010
To All RADIO AMATEURS
BID: $ANS-143.08

1. Upcoming School Contacts

The Wireless Institute of Australia (WIA) in Bayswater, Victoria, Australia has been scheduled for an Amateur Radio on the International Space Station (ARISS) contact on Saturday, May 29 at 10:43 UTC via ON4ISS in Belgium. The WIA will hold a special dinner to celebrate its centenary and has invited students from local schools in Canberra to make an ARISS school contact on that evening. It is anticipated that this dinner will be a high key event with Australia wide coverage.

2. Successful ARISS Contact Held with Komoro Higashi Junior High

On Friday, May 14, Komoro Higashi Junior High School students in Komoro, Nagano, Japan contacted onboard astronaut Soichi Noguchi, KD5TVP via the Amateur Radio on the International Space Station (ARISS) program. Prior to the event, children visited Nobeyama Radio Observatory and worked on radio kits as part of their science curriculum. Over 140 students, parents and guests watched as 15 students had their questions answered during the contact, while 2 television

stations and 5 newspapers provided media coverage.

3. MAI-75 Experiment Activated

The MAI-75 (Moscow Aviation Institute) experiment was activated on Friday, May 14. The ISS crew transmitted several SSTV (Slow Scan Television) images which were received by ground stations in Europe, Asia, Africa and South America. Images have been posted to the SSTV Web site: http://www.amsat.org/amsat/ariss/SSTV/

4. ARISS at Dayton Hamvention

Dayton Hamvention 2010 was held at the Hara Arena Complex in Dayton, Ohio over the May 14-16 weekend. The American Radio Relay League (ARRL) and the Radio Amateur Satellite Corporation (AMSAT) manned exhibition booths at the event. Gould Smith, WA4SXM, AMSAT Project Manager for ARISSat-1, gave a presentation on the satellite. The ARISSat-1 prototype was on exhibit and demonstrated to the crowds. ARRL held a Teachers Workshop and distributed ARISS bookmarks to educators interested in the ARISS program. The Dayton Hamvention is an internationally attended amateur radio convention that draws crowds of 25,000 annually.

[ANS thanks Carol, KB3LKI, for the above information]

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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office.

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This week's ANS Editor,
Lee McLamb, KU4OS
ku4os at amsat dot org